

WHAT IS CLAIMED IS:

- 1                   1.       A graft comprising:  
2                   a graft body section having a proximal end, a distal end, and defining at least  
3 one inflatable porous channel; and  
4                   an inflation medium including at least one therapeutic agent configured to be  
5 introduced into the inflatable channel.
- 1                   2.       The graft of claim 1 wherein the agent is capable of being transported  
2 from the inflation medium through a wall of the porous channel and released into a body  
3 lumen.
- 1                   3.       The graft of claim 2 wherein the agent is configured to be released into  
2 the body lumen from a luminal or abluminal surface of the graft body section.
- 1                   4.       The graft of claim 2 wherein the porous channel has varying levels of  
2 porosity.
- 1                   5.       The graft of claim 2 wherein the graft body section comprises one or  
2 more materials selected from the group consisting of a fluoropolymer, a  
3 polyethyleneterephthalate, a polyvinylchloride, a polyurethane, a polyolefin, and a  
4 polyamide.
- 1                   6.       The graft of claim 2 wherein the graft body section comprises  
2 expanded or perforated polytetrafluoroethylene.
- 1                   7.       The graft of claim 2 wherein a quantity of the agent releasable into the  
2 body lumen ranges from about 10 micrograms to about 100 milligrams.
- 1                   8.       The graft of claim 2 wherein the therapeutic agent is configured to be  
2 transported into the body lumen in a time period ranging from about seven days to about  
3 twelve months.
- 1                   9.       The graft of claim 2 wherein the at least one therapeutic agent  
2 comprises one or more agents selected from the group consisting of an endothelialization  
3 promoting agent, an angiogenesis promoting agent, an anti-thrombotic agent, an anti-

4 aneurysmal agent, an anti-infection agent, an anti-inflammatory agent, an anti-restenosis  
5 agent, a chemotherapeutic agent, and an anti-cancer agent.

1 10. The graft of claim 2 wherein the inflation medium comprises a  
2 therapeutic agent-carrying host polymer.

1 11. The graft of claim 10 wherein the therapeutic agent is capable of being  
2 released by diffusion through the host polymer.

1 12. The graft of claim 10 wherein the therapeutic agent is capable of being  
2 released by degradation of the host polymer.

1 13. The graft of claim 10 wherein the graft body section comprises  
2 biocompatible material capable of inhibiting transport of a bulk of the host polymer.

1 14. The graft of claim 10 wherein the host polymer is capable of being  
2 introduced into the inflatable channel before, during, or after graft deployment or  
3 implantation.

1 15. The graft of claim 10 wherein the host polymer comprises one more  
2 materials selected from the group comprising polyethylene glycol, polyethylene glycol  
3 diacrylate, ethoxylated trimethylolpropane triacrylate, pluronic polyoximer, acrylamide,  
4 polyethylene oxide, polypropylene oxide, polyvinyl alcohol, polyethylene-co-vinyl alcohol,  
5 polyacrylic acid, polyethylene-co-acrylic acid, polyethyloxazoline, polyvinyl pyrrolidone,  
6 polyethylene-co-vinyl pyrrolidone, polymaleic acid, polyethylene-co-maleic acid,  
7 polyacrylamide, and polyethylene oxide-co-polypropylene oxide.

1 16. The graft of claim 1 wherein the inflation medium comprises a liquid.

1 17. The graft of claim 1 wherein the inflation medium comprises a curable  
2 liquid.

1 18. The graft of claim 17 wherein the inflation medium has a cure time  
2 ranging from about three minutes to about twenty minutes and a post-cure elastic modulus  
3 ranging from about 50 psi to about 400 psi.

1                    19.     The graft of claim 1 wherein the channel comprises one or more  
2 features selected from the group consisting of helical spirals, longitudinal channels, and  
3 circumferential rings.

1                    20.     The graft of claim 1 further comprising at least one inflatable porous  
2 cuff disposed at the proximal or distal end of the graft body section and in fluid  
3 communication with the at least one channel.

1                    21.     A graft comprising:  
2                    a graft body section having a proximal end, a distal end, and defining at least  
3 one inflatable porous channel therebetween;  
4                    a connector member affixed to the proximal or distal end of the graft body  
5 section, the connector member comprising one or more connector elements;  
6                    a stent comprising one more proximal stent connector elements coupled to the  
7 one or more connector member connector elements; and  
8                    an inflation medium including at least one therapeutic agent configured to be  
9 introduced into the inflatable channel.

1                    22.     A method for delivering a therapeutic agent, said method comprising:  
2                    providing an graft body section having a proximal end, a distal end, and  
3 defining at least one inflatable porous channel;  
4                    implanting the graft body in a body lumen; and  
5                    inflating the porous channel with an inflation medium including at least one  
6 therapeutic agent.

1                    23.     The method of claim 22 wherein the porous channel is inflated before,  
2 during, or after graft deployment or implantation.

1                    24.     The method of claim 22 further comprising transporting the therapeutic  
2 agent from the inflation medium through the porous channel and releasing the agent into the  
3 body lumen.

1                    25.     The method of claim 24 further comprising releasing the therapeutic  
2 agent into the body lumen from a luminal or abluminal surface of the graft body section.

- 1                   26.     The method of claim 24 wherein the porous channel comprises  
2     expanded or perforated polytetrafluoroethylene having varying levels of porosity.
- 1                   27.     The method of claim 24 wherein the inflation medium comprises a  
2     therapeutic agent-carrying host polymer.
- 1                   28.     The method of claim 27 further comprising releasing the therapeutic  
2     agent by diffusion through the host polymer.
- 1                   29.     The method of claim 27 further comprising releasing the therapeutic  
2     agent by degradation of the host polymer.
- 1                   30.     The method of claim 27 wherein the graft body section inhibits  
2     transport of a bulk of the host polymer.
- 1                   31.     The method of claim 27 wherein the host polymer comprises  
2     polyethylene glycol that is injected as a liquid.
- 1                   32.     The method of claim 31 wherein the inflation medium has a cure time  
2     ranging from about three minutes to about twenty minutes and a post-cure elastic modulus  
3     ranging from about 50 psi to about 400 psi.
- 1                   33.     The method of claim 22 wherein the at least one therapeutic agent  
2     comprises one or more agents selected from the group consisting of an endothelialization  
3     promoting agent, an angiogenesis promoting agent, an anti-thrombotic agent, an anti-  
4     aneurysmal agent, an anti-infection agent, an anti-inflammatory agent, an anti-restenosis  
5     agent, a chemotherapeutic agent, and an anti-cancer agent.
- 1                   34.     The method of claim 22 further comprising releasing the therapeutic  
2     agent into the body lumen in a time period ranging from about seven days to about twelve  
3     months. .
- 1                   35.     A kit comprising:  
2                   a graft; and  
3                   instructions on how to implant and inflate the graft for delivery of a  
4     therapeutic agent according to any one of claims 22-34.